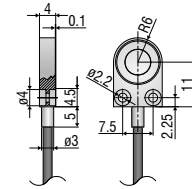
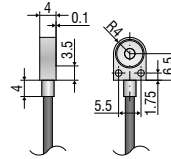
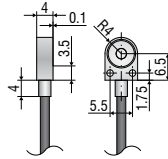




# More Precision

capa**N**CDT // Capacitive displacement sensors and systems





Sensor type		CSH02FL-CRm1,4	CSH05FL-CRm1,4	CSH1FL-CRm1,4
Article No.		6610075	6610085	6610072
Measuring range	reduced	0.1 mm	0.25 mm	0.5 mm
	nominal	0.2 mm	0.5 mm	1 mm
	extended	0.4 mm	1 mm	2 mm
Linearity <sup>1)</sup>		$\leq \pm 0.05 \mu\text{m}$	$\leq \pm 0.09 \mu\text{m}$	$\leq \pm 0.2 \mu\text{m}$
		$\leq \pm 0.025 \% \text{ FSO}$	$\leq \pm 0.018 \% \text{ FSO}$	$\leq \pm 0.02 \% \text{ FSO}$
Resolution <sup>1) 2)</sup>	static 2 Hz	0.15 nm	0.38 nm	0.75 nm
	dynamic 8.5 kHz	4 nm	10 nm	20 nm
Temperature stability	Zero <sup>5)</sup>	-37.6 or 2.4 nm/°C	-37.6 or 2.4 nm/°C	-37.6 or 2.4 nm/°C
	Sensitivity	-2.4 nm/K	-6 nm/K	-12 nm/K
Temperature range	Operation	-50... +200 °C	-50... +200 °C	-50... +200 °C
	Storage	-50... +200 °C	-50... +200 °C	-50... +200 °C
Humidity <sup>3)</sup>		0 % ... 95 % r.H.	0 % ... 95 % r.H.	0 % ... 95 % r.H.
Dimensions <sup>4)</sup>		10.5 × 8 × 4 mm	10.5 × 8 × 4 mm	17 × 12 × 4 mm
Active measuring area		Ø2.6 mm	Ø4.1 mm	Ø5.7 mm
Guard ring width		1.9 mm	1.2 mm	2.4 mm
Minimum target diameter		Ø7 mm	Ø7 mm	Ø11 mm
Weight (incl. cable and connector)		28 g	28 g	30 g
Material	Housing	1.4104 (magn.)	1.4104 (magn.)	1.4104 (magn.)
Connection	Cable integrated	Ø2.1 mm × 1.4 m radial	Ø2.1 mm × 1.4 m radial	Ø2.1 mm × 1.4 m radial
Mounting		2x thread M2	2x thread M2	2x screw M2 DIN 84A

FSO = Full Scale Output CSH Sensors are matched to controller with standard cable length

<sup>1)</sup> Valid with reference controller, relates to standard measuring range

<sup>2)</sup> RMS value of the signal noise

<sup>3)</sup> Non condensing

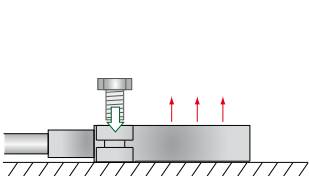
<sup>4)</sup> Without cable, bend protection and crimp

<sup>5)</sup> In the case of a sensor mounting on the top or underside

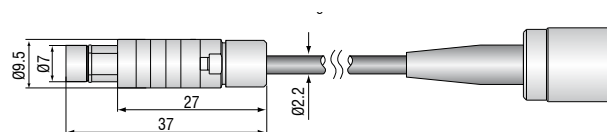
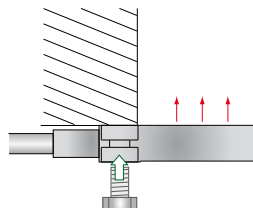
### Mounting flat sensors

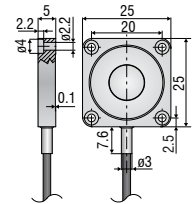
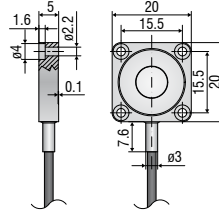
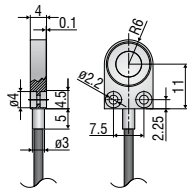
The flat sensors are attached using a threaded bore for M2 (for the sensors CSH02FL and CSH05FL) or using a through-hole for M2 bolts. The sensors can be bolted on top or below.

#### Screw connection from above on the underside



#### Screw connection from below on the sensor top side





Sensor type		CSH1,2FL-CRm1,4	CSH2FL-CRm1,4	CSH3FL-CRm1,4
Article No.		6610077	6610094	6610140
Measuring range	reduced	0.6 mm	1 mm	1.5 mm
	nominal	1.2 mm	2 mm	3 mm
	extended	2.4 mm	4 mm	6 mm
Linearity <sup>1)</sup>		0.84 $\mu$ m	0.32 $\mu$ m	$\leq \pm 0.9 \mu$ m
		0.07 % FSO	0.016 % FSO	$\leq \pm 0.03$ % FSO
Resolution <sup>1) 2)</sup>	static 2 Hz	0.9 nm	1.5 nm	2.25 nm
	dynamic 8.5 kHz	24 nm	40 nm	60 nm
Temperature stability	Zero <sup>5)</sup>	-37.6 or 2.4 nm/ $^{\circ}$ C	-47 or 4 nm/K	-50 nm/K
	Sensitivity	-14.4 nm/K	-24 nm/K	-40 nm/K
Temperature range	Operation	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C
	Storage	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C	-50...+200 $^{\circ}$ C
Humidity <sup>3)</sup>		0 ... 95 % r.H.	0 ... 95 % r.H.	0 ... 95 % r.H.
Dimensions <sup>4)</sup>		17 $\times$ 12 $\times$ 4 mm	20 $\times$ 20 $\times$ 5 mm	25 $\times$ 25 $\times$ 5 mm
Active measuring area		$\varnothing$ 6.3 mm	$\varnothing$ 8.1 mm	$\varnothing$ 10 mm
Guard ring width		2.1 mm	4.4 mm	7.8 mm
Minimum target diameter		$\varnothing$ 11 mm	$\varnothing$ 17 mm	$\varnothing$ 24 mm
Weight (incl. cable and connector)		30 g	36 g	37 g
Material	Housing	1.4104 (magn.)	1.4104 (magn.)	1.4104 (magn.)
Connection	Cable integrated	$\varnothing$ 2.1 mm $\times$ 1.4 m radial	$\varnothing$ 2.1 mm $\times$ 1.4 m radial	$\varnothing$ 2.1 mm $\times$ 1.4 m radial
Mounting		2x screw M2 DIN 84A	4x screw M2 DIN 84A	4x screw M2 DIN 84A

FSO = Full Scale Output CSH Sensors are matched to controller with standard cable length

<sup>1)</sup> Valid with reference controller, relates to standard measuring range

<sup>2)</sup> RMS value of the signal noise

<sup>3)</sup> Non condensing

<sup>4)</sup> Without cable, bend protection and crimp

<sup>5)</sup> In the case of a sensor mounting on the top or underside

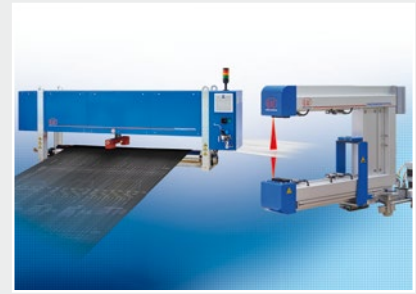
## Sensors and Systems from Micro-Epsilon



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